ORDER NO. RD7803-1551

Service Manual

Radio

FM/AM
DIGITAL CLOCK RADIO

RC-6035B

* This service manual includes only the changes of the RC-6035BA service manual (ORDER NO. RD7801-1548).
* This manual should be filed with the service manual for model RC-6035BA (ORDER NO. RD7801-1548).
* When servicing model RC-6035B, this service manual and the RC-6035BA service manual should be used together.

CHANGES

■ SPECIFICATIONS

Power Source: AC 240V 50 Hz (Model RC-6035BA) ➡ AC 110-125/220-240V 50/60 Hz (Model RC-6035B)

■ REPLACEMENT PARTS LIST

Ref. No.	Change of Part No. RC-6035BA ➡	RC-6035B	Part Name & Description	Per Set	Remarks	Price
	RYMC6035BA	RYMC6035BX	Cabinet Body Assembly, Black	1	○X	
CA_1	Not Available, Order RYMC6035BA	Not Available, Order RYMC6035BX	Cabinet Body Only	(1)		
	RGT623Z	RGT623Y	Name Plate	1	○Y	
T_5	RLT 5J176	RLT5J172	Power, Transformer	1	X	
L_9	—	RLQY15G5	Coil, Choke	1	X	
	—	RSR2A01Z	Switch, Voltage Selector	1	X	
CH_1	**RJA44Z-K**	RJA52Z-F	AC Power Cord	1	X	
	RMX126Z	—	Removed			
CH_{12}	RJR12A	—	Removed			
	—	RUV426Z	Safety Cover, Voltage Selector	1	Y	
	—	RHR108A	Connector, AC Cord & P.T	1	Y	
	—	XTN23+8B	Screw, Voltage Selector M'tg	2	Z	
	—	RJP120ZS-H	Plug, AC Power Cord	1	Y	
R_{12}	**ERD25TJ331**	**ERD25TJ561**	560Ω, ¼Watt ±5%, Carbon	1	Z	
C_{46}	ECCD1H101K	—	Removed			

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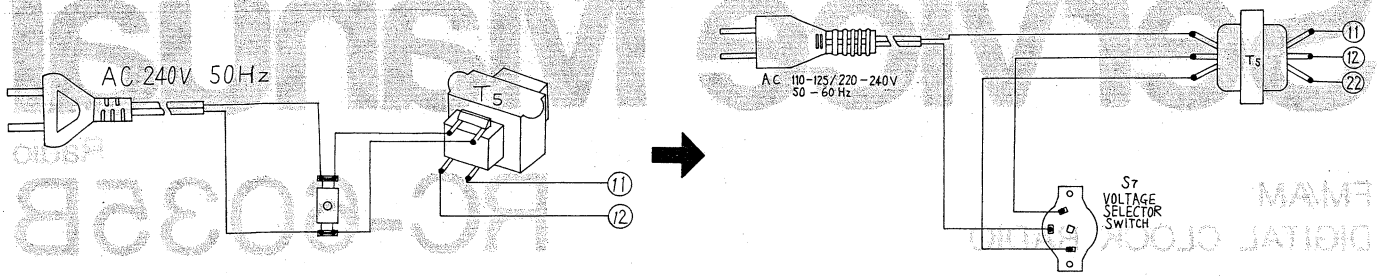
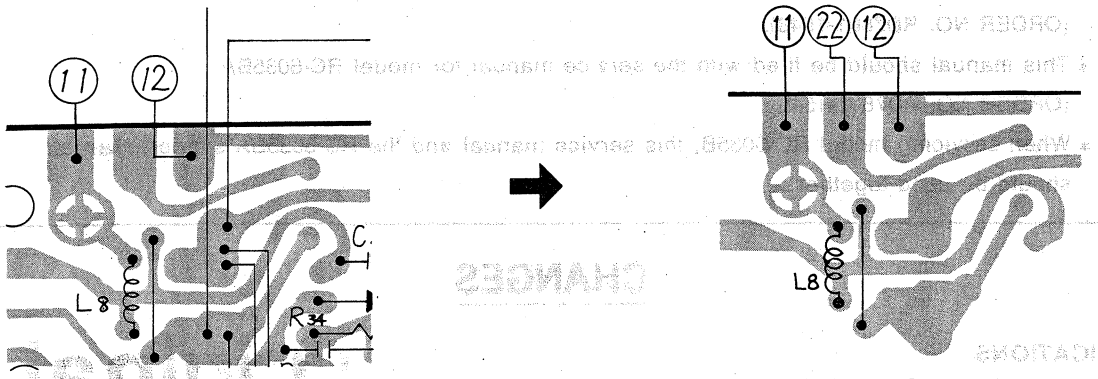
■ CIRCUIT BOARD WIRING VIEW

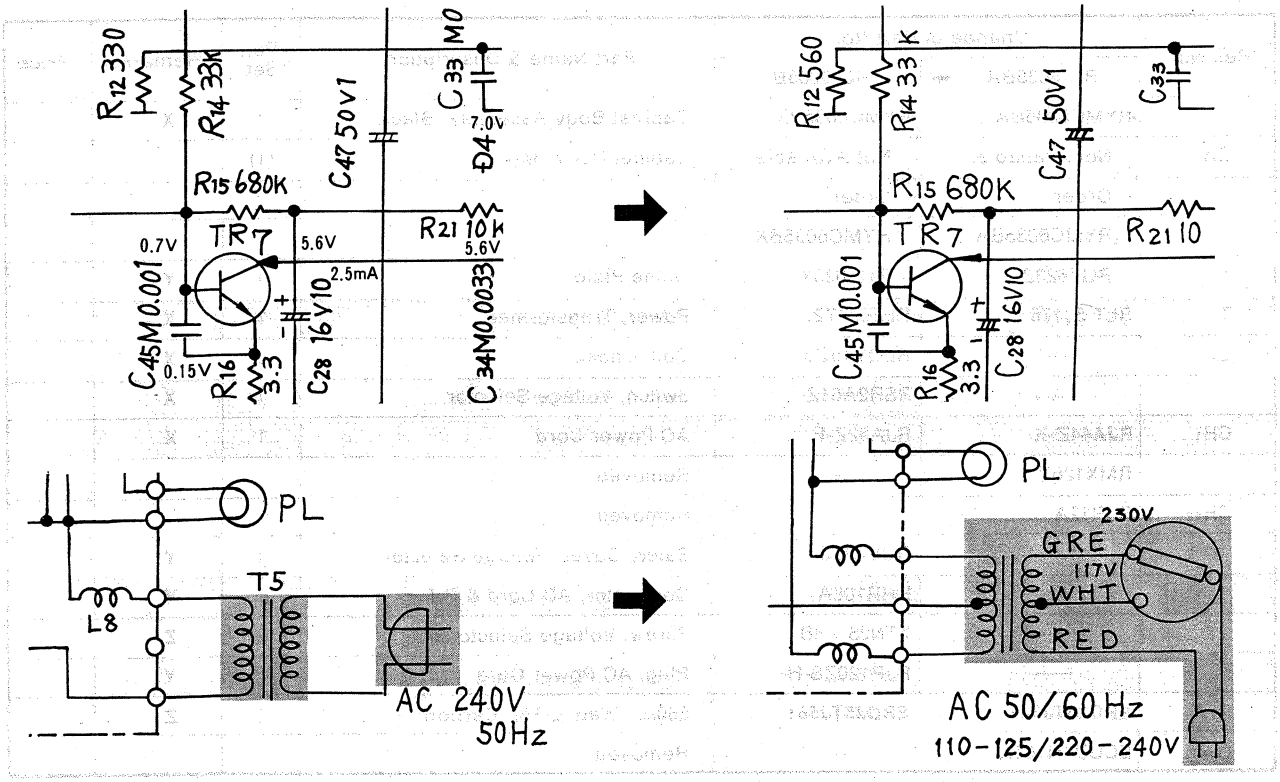


(Model RC-6035BA) (Model RC-6035B)



(Model RC-6035BA) (Model RC-6035B)

■ SCHEMATIC DIAGRAM



(Model RC-6035BA) (Model RC-6035B)

QM Ⓕ X
Printed in Japan

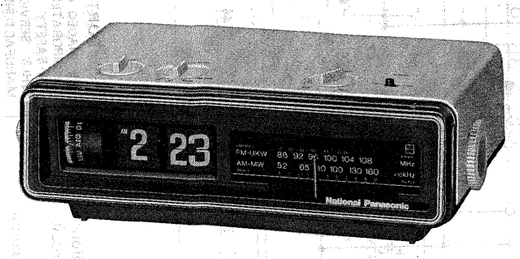
ORDER NO. RD7802-1548

Service Manual

Radio

RC-6035BA

FM-AM
DIGITAL CLOCK RADIO



■ SPECIFICATIONS

Frequency Range:	FM 88~108 MHz AM 520~1605 kHz
Intermediate Frequency:	FM 10.7 MHz AM 455 kHz
Sensitivity:	FM 4μV for 50mW Output AM 100μV/m for 50mW Output
Power Source:	AC 240V 50Hz
Power Consumption:	5W
Speaker:	8cm (3") PM Dynamic Speaker
Dimensions:	268 (Wide) × 97 (High) × 150 (Deep) mm ($10\frac{9}{16}$" × $3\frac{13}{16}$" × $5\frac{15}{16}$")
Weight:	1.2kg (2 lb. 10.3 oz.)
Impedance:	Speaker.....32Ω

Specifications are subject to change without notice for further improvement.

■ DISASSEMBLY INSTRUCTIONS

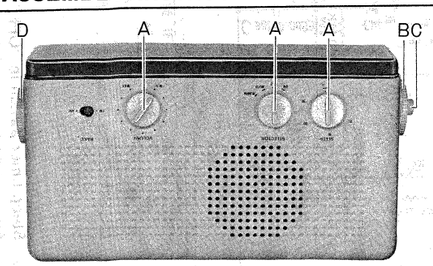


Fig. 1

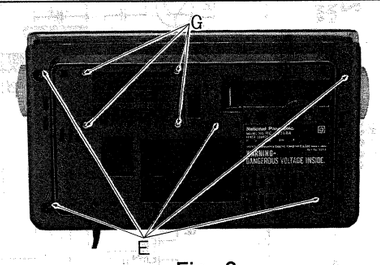


Fig. 2

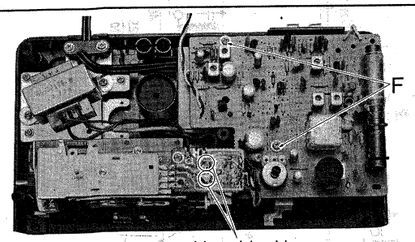


Fig. 3

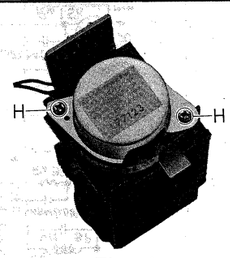


Fig. 4

Procedure	To remove	Remove	Pcs.	Shown in fig.–
1	Knobs	(A)(B)(C)(D)	(5)	1
2	Cover	(E)	(5)	2
3	PC Board	(F)	(2)	3
4	Clock Motor	(G)(※)(H)	(4)(2)(2)	2, 3, 4

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■ CABINET PARTS LOCATIONS

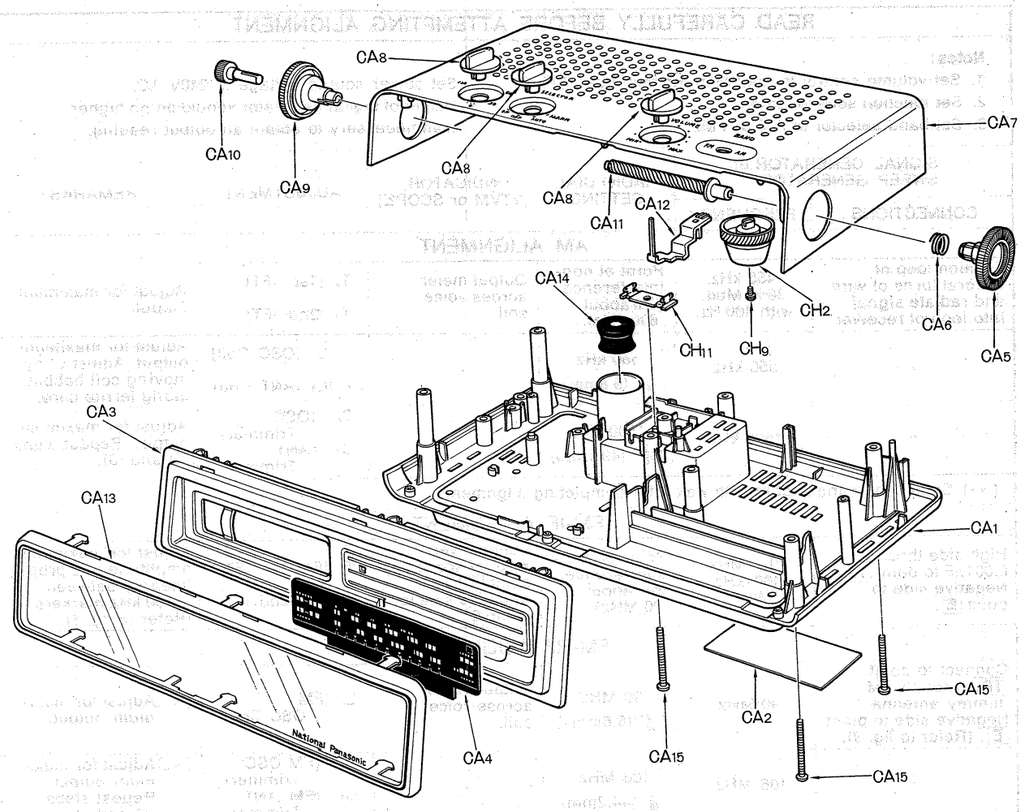


Fig. 5

■ CHASSIS PARTS LOCATIONS

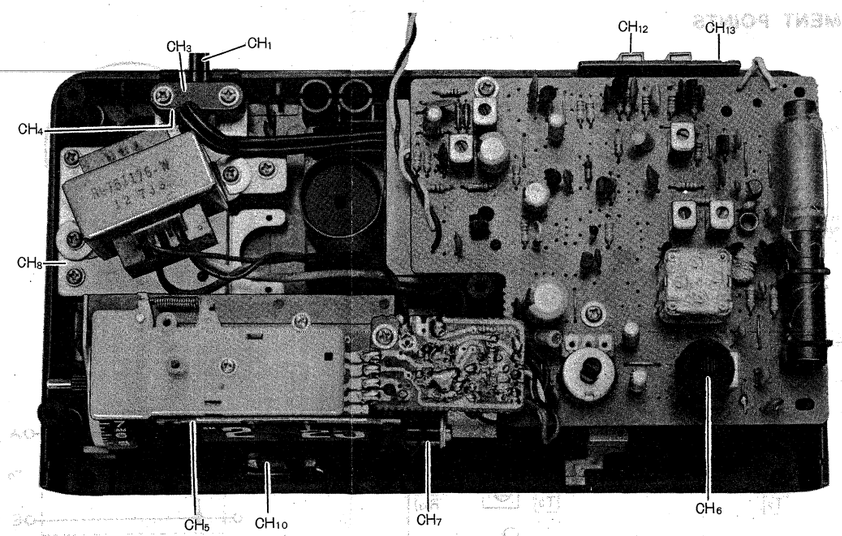


Fig. 6

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:
1. Set volume control to maximum or minimum (FM-IF).
2. Set function selector to on.
3. Set band selector to AM or FM.
4. Set power source voltage to 240V AC.
5. Output of signal generator should be no higher than necessary to obtain an output reading.

	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	CONNECTIONS	FREQUENCY				
	AM ALIGNMENT					
(1)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz.	Point of non-interference. (on/about 600 kHz).	Output meter across voice coil.	T_2 (1st IFT) T_4 (2nd IFT)	Adjust for maximum output.
(2)	〃	550 kHz	550 kHz [$\frac{1}{4}$" (5.8mm)]	〃	L_5 (OSC Coil) (＊1)L_3 (ANT Coil)	Adjust for maximum output. Adjust L_3 by moving coil bobbin along ferrite core.
(3)	〃	1500 kHz	1500 kHz [$1\frac{18}{16}$" (49.1mm)]	〃	C_8 (OSC Trimmer) C_7 (ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
	(＊1) Cement antenna bobbin with wax after completing alignment.					
	FM-IF ALIGNMENT					
(4)	High side thru. 0.001μF to point TP1 Negative side to point E.	10.7 MHz (400 kHz SWP.)	Point of non-interference. (on/about 90 MHz)	Connect vert. amp. of scope to point TP2, Negative side to point E.	T_1 (FM 1st IFT) T_3 (FM 2nd IFT)	Adjust for maximum amplitude and proper linearity between ±100 kHz markers. (Refer to fig. 8).
	FM-RF ALIGNMENT					
(5)	Connect to point TP1 through FM dummy antenna. Negative side to point E. (Refer to fig. 9).	90 MHz	90 MHz [$\frac{3}{32}$"(6.6mm)]	Output meter across voice coil.	L_2 (FM OSC Coil)	(＊2)Adjust for maximum output.
(6)	〃	106 MHz	106 MHz [$\frac{33}{32}$"(44.2mm)]	〃	C_6 (FM OSC Trimmer) C_5 (FM ANT Trimmer)	(＊2)Adjust for maximum output. Repeat steps (5) and (6).
	(＊2) Three output responses will be present; proper tuning is the center frequency.					

■ ALIGNMENT POINTS

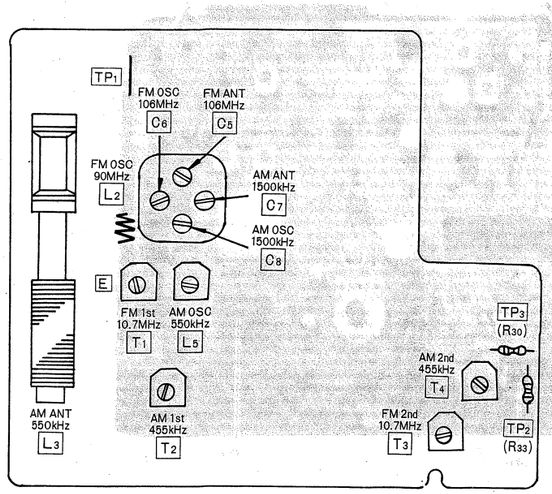


Fig. 7

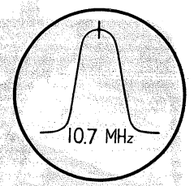


Fig. 8

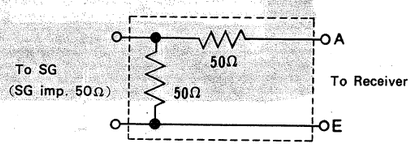
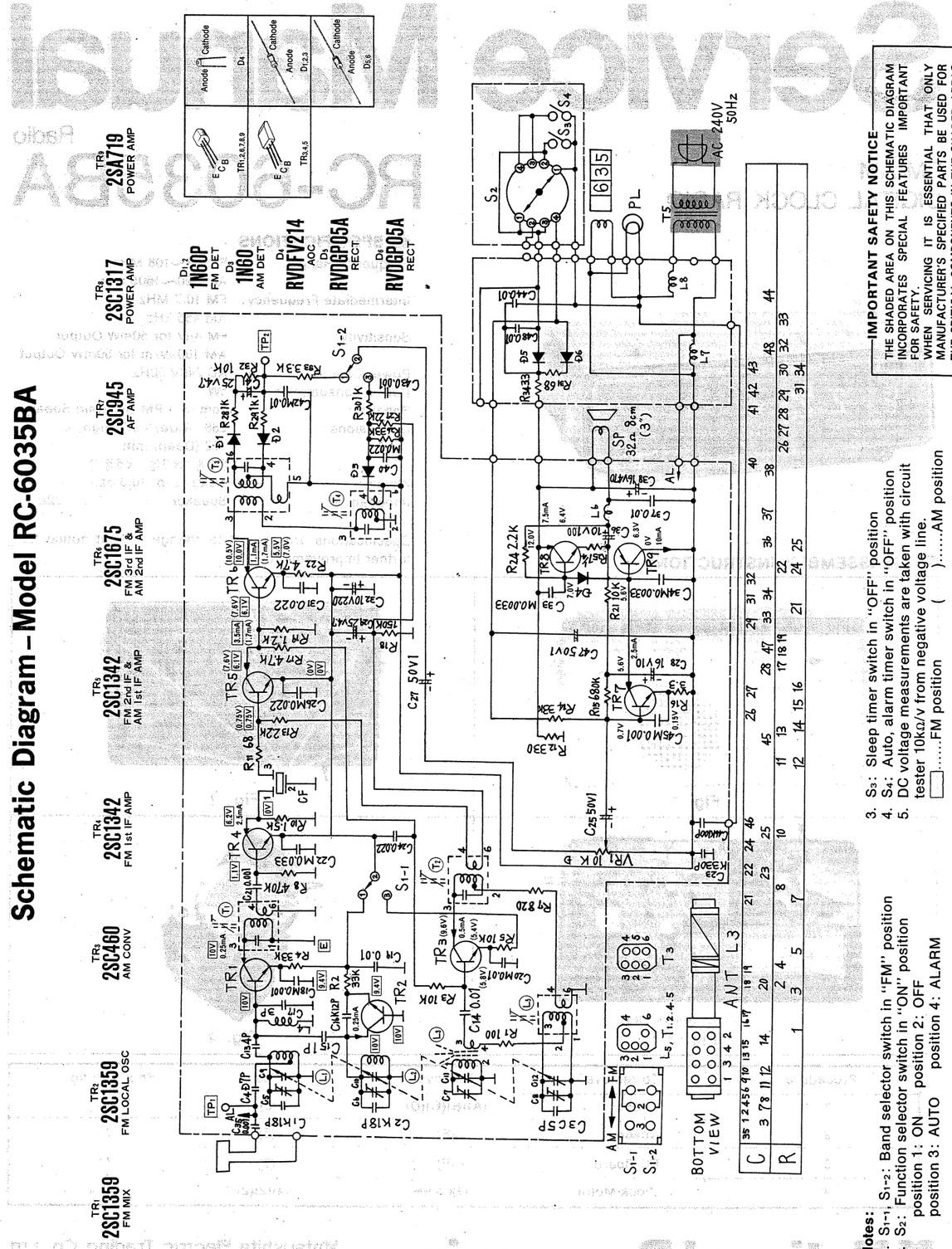


Fig. 9 FM Dummy Antenna

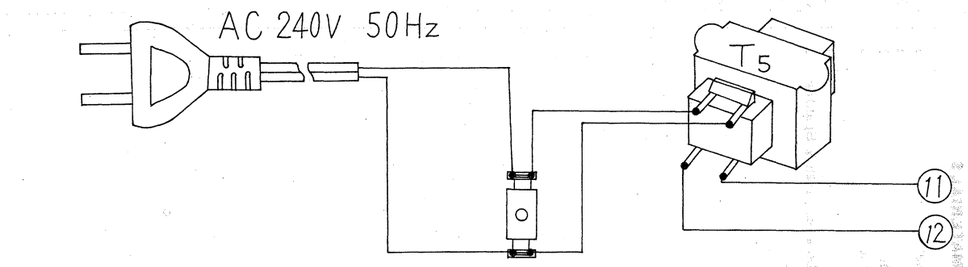
Schematic Diagram – Model RC-6035BA

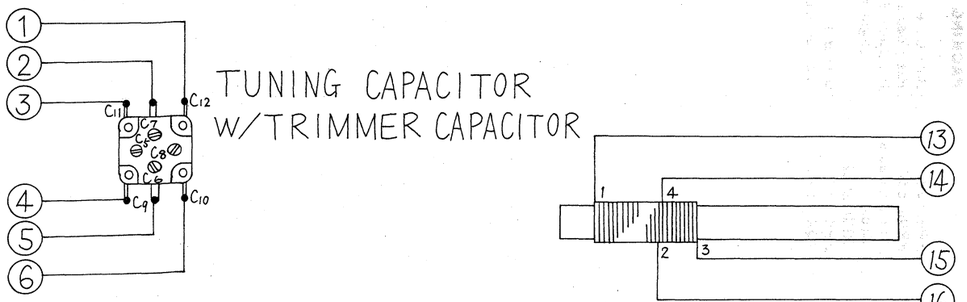


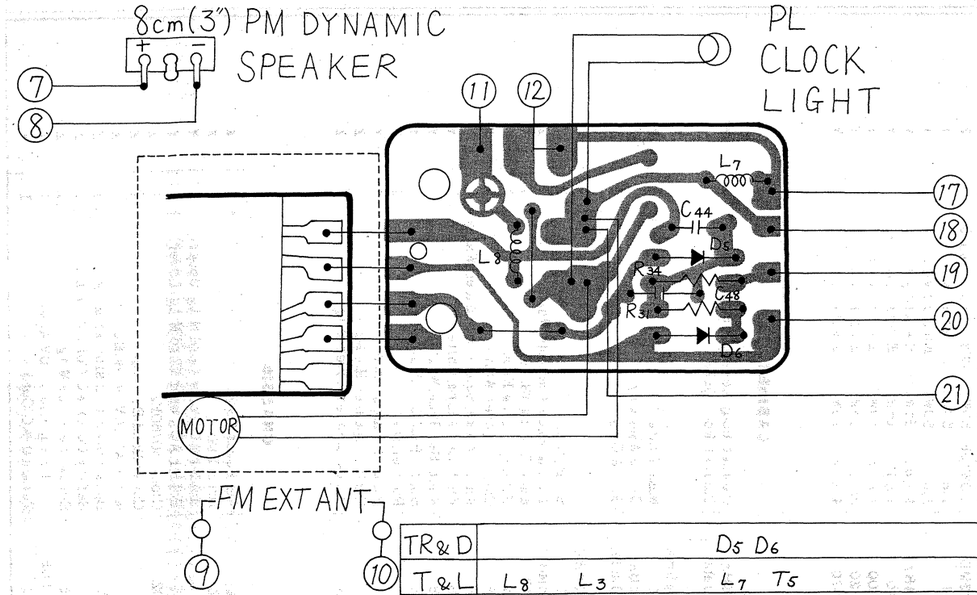
IMPORTANT SAFETY NOTICE
THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY.
WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

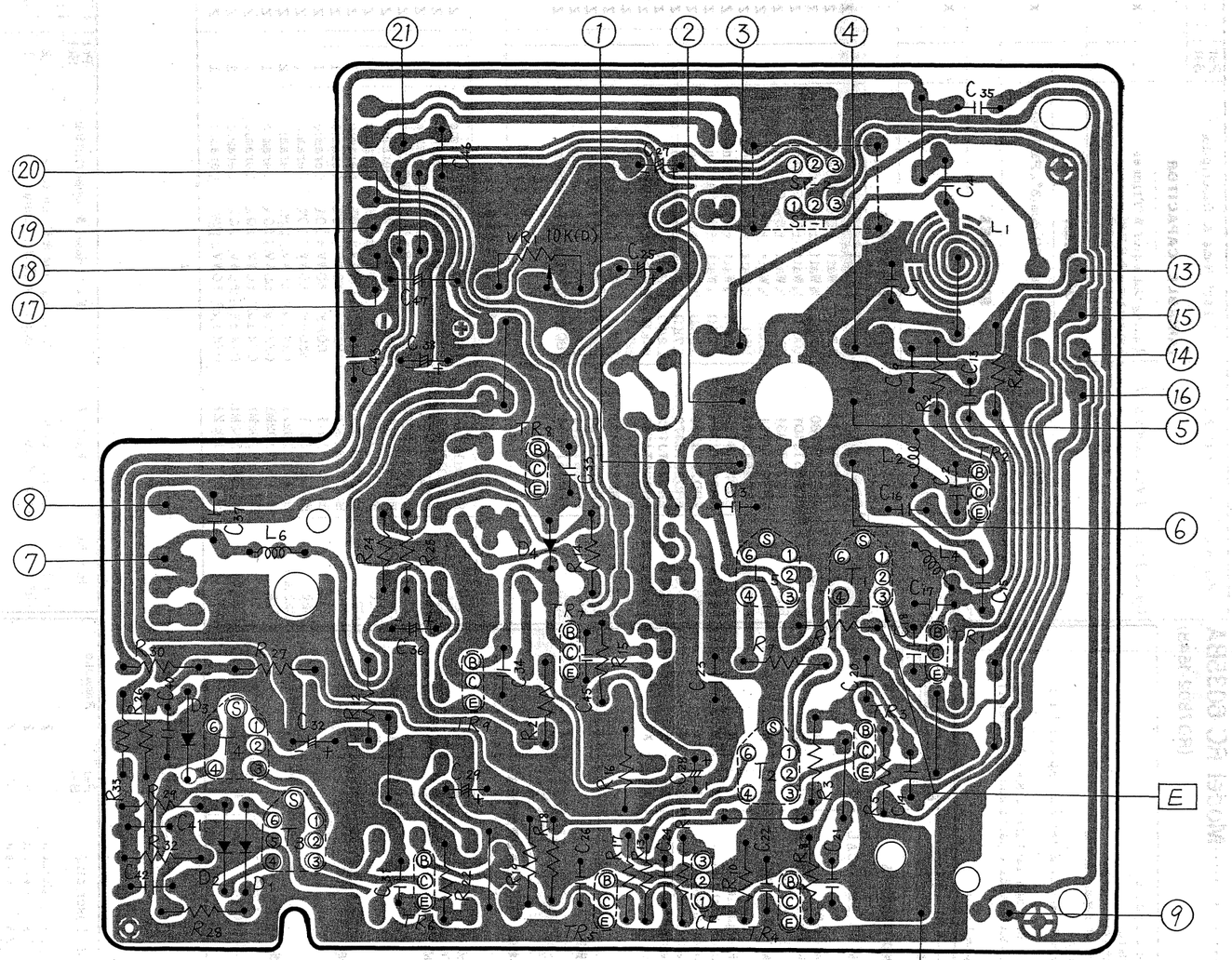
Notes:
1. S_{1-1}, S_{1-2}: Band selector switch in "FM" position
2. S_2: Function selector switch in "ON" position
   position 1: ON position 2: OFF
   position 3: AUTO position 4: ALARM
3. S_3: Sleep timer switch in "OFF" position
4. S_4: Auto, alarm timer switch in "OFF" position
5. DC voltage measurements are taken with circuit tester 10kΩ/v from negative voltage line.
   ( ).....AM position
   [ ].....FM position

Circuit Board Wiring View–Model RC-6035BA









TR&D	D5 D6	D3 D2 D1	TR6 TR9 D4 TR8 TR7 TR5	TR4	TR3	TR1 TR2
T&L	L8 L3	L7 T5	T4 L6 T3	T2 L5	T1 L2 L4	L1

TR1

	FM
C	10.0V
B	10.0V
E	9.4V
Ic	0.25mA

TR2

	FM
C	10.0V
B	10.0V
E	9.4V
Ic	0.25mA

TR3

	AM
C	9.6V
B	5.8V
E	5.4V
Ic	0.5mA

TR4

	FM
C	6.2V
B	1.1V
E	0V
Ic	2.5mA

TR5

	AM	FM
C	7.6V	6.1V
B	0.75V	0.75V
E	0V	0V
Ic	1.7mA	3.5mA

TR6

	AM	FM
C	10.5V	10.0V
B	7.6V	6.1V
E	7.0V	5.5V
Ic	1.7mA	1.1mA

TR7

C	5.6V
B	0.7V
E	0.15V
Ic	2.5mA

TR8

C	12.0V
B	7.0V
E	6.4V
Ic	7.5mA

TR9

E	6.3V
B	5.6V
C	0V
Ic	10mA

■REPLACEMENT PARTS LIST·····Model RC-6035BA

(RD7802-1548)

NOTES: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.
2. X—Z rank: **X** rank parts will cover 80% of repair needs.
X+Y rank parts will cover 95% of repair needs.
Z rank parts are less necessary.
3. Components identified by shaded area have special characteristic important for safety.
When replacing any of these components use only manufacturer's specified parts.
4. Part numbers shown in bold letters are service standard parts and may differ from production parts.
5. The ○ mark is used by the manufacturing plant only.

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
TRANSISTORS AND DIODES					
TR1,2	2SC1359	Transistor(Si), FM Mix, FM LOCAL OSC	2		X
TR3	2SC460	Transistor(Si), AM CONV.	1		X
TR4,5	2SC1342	Transistor(Si), FM 1st IF Amplifier, FM 2nd & AM 1st IF Amplifier	2		X
TR6	2SC1675	Transistor(Si), FM 3rd & AM 2nd IF Amplifier	1		X
TR7	2SC945	Transistor(Si), AF Amplifier	1		X
TR8	2SC1317	Transistor(Si), Power Amplifier	1		X
TR9	2SA719	Transistor(Ge), Power Amplifier	1		X
D1,2	**2-OA90**	Diode(Ge), FM Detector	1Pair		X
D3	**OA90M**	Diode(Ge), AM Detector	1		X
D4	RVDFV214	Diode(Si), AOC	1		X
RECTIFIERS					
D5,6	RVDGP05A	Rectifier	1		X
CERAMIC FILTER, COILS AND TRANSFORMERS					
CF	RVFSFE107MS	Ceramic Filter	1		X
L2	RLD4Y53	Oscillator Coil, FM	1		X
L3	RLF2V45	Ferrite Antenna Coil, AM	1		X
L5	RLO2M10	Oscillator Coil, AM	1		X
T1	**RLI4M101**	IFT, FM 1st	1		X
T2	**RLI2M207**	IFT, AM 1st	1		X
T3	RLI4M509	IFT, FM 2nd	1		X
T4	**RLI2M404**	IFT, AM 2nd	1		X
T5	RLT5J176	Power Transformer	1		X
VARIABLE RESISTOR					
VR1	EVHLOAF25D14	Variable Resistor, 10KΩ(D), Volume Control	1		X

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
VARIABLE CAPACITOR					
C9,10,11,12	PVC2LX20T5LV	Tuning Capacitor, W/Trimmer Capacitor(C5,6,7,8)	1		X
SPEAKER					
SP	RAS8P09Z-H	Speaker, Imp.32Ω, 8cm(3″), PM Dynamic	1		X
SWITCHES					
S1-1,S1-2	RSS2B03Z-H	Switch, Band Selector	1		X
RESISTORS					
R25	**ERD25TJ1R0**	1Ω, ¼Watt, ±5%, Carbon	1		Z
R16,34	**ERD25TJ3R3**	3.3Ω, ¼Watt, ±5%, Carbon	2		Z
R11,31	**ERD25TJ680**	68Ω, ¼Watt, ±5%, Carbon	2		Z
R1	**ERD25TJ101**	100Ω, ¼Watt, ±5%, Carbon	1		Z
R12	**ERD25TJ331**	330Ω, ¼Watt, ±5%, Carbon	1		Z
R7	**ERD25TJ821**	820Ω, ¼Watt, ±5%, Carbon	1		Z
R28,29,30	**ERD25TJ102**	1KΩ, ¼Watt, ±5%, Carbon	3		Z
R10	**ERD25TJ152**	1.5KΩ, ¼Watt, ±5%, Carbon	1		Z
R13,24	**ERD25TJ222**	2.2KΩ, ¼Watt, ±5%, Carbon	2		Z
R33	**ERD25TJ332**	3.3KΩ, ¼Watt, ±5%, Carbon	1		Z
R17,22	**ERD25TJ472**	4.7KΩ, ¼Watt, ±5%, Carbon	2		Z
R19	**ERD25TJ122**	1.2KΩ, ¼Watt, ±5%, Carbon	1		Z
R3,5,21,32	**ERD25TJ103**	10KΩ, ¼Watt, ±5%, Carbon	4		Z
R27	**ERD25TJ223**	22KΩ, ¼Watt, ±5%, Carbon	1		Z
R2,4,14,26	**ERD25TJ333**	33KΩ, ¼Watt, ±5%, Carbon	4		Z
R18	**ERD25TJ154**	150KΩ, ¼Watt, ±5%, Carbon	1		Z
R8	**ERD25TJ474**	470KΩ, ¼Watt, ±5%, Carbon	1		Z
R15	**ERD25TJ684**	680KΩ, ¼Watt, ±5%, Carbon	1		Z
CAPACITORS					
C15	ECCD1H010C	1PF, 50WV, ±0.25PF, Ceramic	1		Z
C17	ECCD1H030C	3PF, 50WV, ±0.25PF, Ceramic	1		Z
C13	ECCD1H040C	4PF, 50WV, ±0.25PF, Ceramic	1		Z
C3	ECCD1H050CC	5PF, 50WV, ±0.25PF, Ceramic	1		Z
C4	ECCD1H070D	7PF, 50WV, ±0.5PF, Ceramic	1		Z
C16	ECCD1H120KC	12PF, 50WV, ±10%, Ceramic	1		Z
C2	ECCD1H180KC	18PF, 50WV, ±10%, Ceramic	1		Z
C1	ECCD1H180K	18PF, 50WV, ±10%, Ceramic	1		Z
C46	ECCD1H101K	100PF, 50WV, ±10%, Ceramic	1		Z
C23	ECCD1H331K	330PF, 50WV, ±10%, Ceramic	1		Z
C21,43	ECKV1H102ZF	0.001μF, 50WV, +80 −20 %, Ceramic	2		Z
C18	ECKD1H102MD	0.001μF, 50WV, ±20%, Ceramic	1		Z
C45	ECKT1H102MD	0.001μF, 50WV, ±20%, Ceramic	1		Z
C33,34	ECKD1H332MD	0.0033μF, 50WV, ±20%, Ceramic	2		Z
C35	ECKT1H102ZF	0.001μF, 50WV, +80 −20 %, Ceramic	1		Z

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
C48	ECKD1H103ZF	0.01μF, 50WV, +80 −20 %, Ceramic	1		Z
C14,19,37,44	ECKV1H103ZF	0.01μF, 50WV, +80 −20 %, Ceramic	4		Z
C20,42	ECKD1H103MD	0.01μF, 50WV, ±20%, Ceramic	2		Z
C24,31	ECKV1H223ZF	0.022μF, 50WV, +80 −20 %, Ceramic	2		Z
C26,40	ECFTD223MD	0.022μF, 50WV, ±20%, Semi-Conductor	2		Z
C22	ECFTD333MD	0.033μF, 50WV, ±20%, Semi-Conductor	1		Z
C47	**ECEA50N1**	1μF, 50WV, Electrolytic	1		Y
C25,27	**ECEA50V1**	1μF, 50WV, Electrolytic	2		Y
C29,41	**ECEA35V4R7**	4.7μF, 35WV, Electrolytic	2		Y
C28	**ECEA16V10**	10μF, 16WV, Electrolytic	1		Y
C36	**ECEA10V100**	100μF, 10WV, Electrolytic	1		Y
C32	**ECEA16V220**	220μF, 16WV, Electrolytic	1		Y
C38	**ECEA16V470**	470μF, 16WV, Electrolytic	1		Y
CABINET					
	RYMC6035BA	Cabinet Body Assembly, Black	1		○X
CA1	(Not Available, Order RYMC6035BA)	Cabinet Body Only	(1)		
CA2	RGT623Z	Name Plate	1		○Z
	RYGC6035BA	Grille Assembly	1		○X
CA3	(Not Available, Order RYGC6035BA)	Grille Only	(1)		
CA4	RKD465X	Scale, Dial	1		○Y
	RYTC6035M8	Tuning Knob Assembly, White	1		X
CA5	RBN444Z8	Knob, Tuning, White	1		X
CA6	RUS265Z	Spring, Tuning Knob	1		Z
CA7	RKF409Y8	Cabinet Cover, White	1		○X
CA8	RBS116Z8	Knob, Volume, Selector & Sleep, White	3		Y
CA9	RBW120Z8	Knob, Set Alarm, White	1		Y
CA10	RBW121Z8	Knob, Set Time, White	1		Y
CA11	RDG5667Z	Shaft(Plastic), Tuning	1		Y
CA12	RDP174Z	Pointer, Dial	1		Y
CA13	RGP438X	Panel, Transparence	1		○Y
CA14	RHG466Z	Rubber, Speaker Holder	1		Z
CA15	XTN3+42C	Screw, Cabinet Cover M'tg	5		Z
CHASSIS					
CH1	**RJA44Z-K**	AC Power Cord	1		X
CH2	RDG5668Z	Drum, Dial	1		X
CH3	RHR550A	Holder, AC Power Cord M'tg(Upper)	1		Y
CH4	RHR134Z	Holder, AC Power Cord M'tg(Lower)	1		Y
CH5	RSC12540Z	Clock, 50/60Hz	1		X
CH6	RUV58A	Cover, Band Selector	1		Z
CH7	RMN179Z	Motor, AC 10V, 50/60Hz	1		X
CH8	RMD3058Z	Base, Power Transformer M'tg	1		○Z
	RMX126Z	Safety Cover, AC Cord Terminal	1		○Z
CH9	XYN26+C6	Screw, Dial Drum M'tg	1		Z
CH10	XAMR58T150B	Pilot Lamp, Clock 10V, 40mA	1		Y
CH11	**RJR12A**	Terminal, AC Cord	1		Y

Ref. No.	Part No.	Part Name & Description	Per Set		Remarks
CH12	RJF1065Z	Terminal, FM EXT. Antenna	2		Y
CH13	RJF1069Z	Base, FM EXT. Antenna	1		○Z
PACKING MATERIALS					
P1	RPH252Z	Soft Cover, Set	1		Y
	RPN9253Z	Pad, Complete	1		○Y
P2	(Not Available, Order RPN9253Z)	Pad, Left Side	(1)		
P3		Pad, Right Side	(1)		
P4	RPK563Z	Gift Box	1		○Y
P5	RQX6187Z	Instruction Book, English & Spanish	1		○Y

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